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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,334	12/12/2001	Edwin Espanola Bautista	CM03513J/10-41	1739
23400 7590 02/13/2004 POSZ & BETHARDS, PLC 11250 ROGER BACON DRIVE SUITE 10 RESTON, VA 20190			EXAMINER LINNENKAMP, NICHOLAS L.	
			ART UNIT 2635	PAPER NUMBER

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/020,334

Applicant(s)

BAUTISTA ET AL.

Examiner

Nicholas L Linnenkamp

Art Unit

2635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because redundant use of articles 'a' and 'an'. The phrase "an a duty cycle" should read "a duty cycle". Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities:

- Use of the acronym **WCU** on page 11 of specification not defined. It is generally understood that this was a typographical error and should read **SCU**.
- Typo on page 15, line 9, **tned** should read tuned.
- Use of the acronym **WANS** on page 22, line 14 of specification not defined. It is generally understood that this was intended to represent Wide Area NetworkS.
- Use of the acronym **PSTN** on page 22, line 14 of specification not defined. It is generally understood that this was intended to represent Public Switched Telephone Network.
- Use of the acronyms **RAM, ROM, PROM** on page 11, line 5 of specification not defined. It is generally understood that these were

intended to represent Random Access Memory, Read Only Memory, Programmable Read Only Memory, respectively.

- Use of the acronyms **AM** and **FM** on page 12, line 14 of specification not defined. It is generally understood that these were intended to represent Amplitude Modulation and Frequency Modulation, respectively.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "low" in claim 7 is a relative term which renders the claim indefinite. The term "low" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The frequency of the intermediate frequency IF receiver cannot be determined with respect to the term "low". The examiner understands that the applicant intends for messaging receiver to be a higher power receiver than the first receiver and that an IF receiver would suffice as a "low" IF receiver as long as it sustains higher data transfer rates than the first receiver.

The term "on the order of" in claims 11 and 26 is a relative term that renders the claims indefinite. The term "on the order of" is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The expected battery life cannot be determined. The examiner understands that the applicant intended for the battery to last as long as possible, with the leakage current due to natural processes contributing to the majority of the drain on the battery life. Use of the term "on the order of" is seen as equivalent to the term "about" which when the range is left undefined encompasses a large range of battery usage times.

Claim 26 recites the limitation "said transmitter" in line 3. There is insufficient antecedent basis for this limitation in the claim. In regards to claim 26 the examiner notes that applicant might have intended them to be dependent on claim 25, which is similar to claim 1 except the limitation of the transmitter.

Claim 26 contains a typo on line 4 of the claim. The phrase "shelf like" should read "shelf life".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6-8, 10, 11, 13, 18-20, 22, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Siwiak et al (heretofore Siwiak).

In reference to claim 1, Siwiak teaches of a selective call communications unit arranged and constructed for extended battery life comprising in combination:

- A first receiver having low power consumption for receiving a call signal to provide and enable signal **(Receiver 102 in combination with FM demodulator 108, make the first low power receiver, enable signal exemplified by sequence of blocks 516, 518, and A of flow chart shown in Fig 5a)**
- A messaging receiver, activated by said enable signal, for receiving a message intended for the selective call communications unit **(Receiver 102 in combination with linear demodulator 112, comprise the messaging receiver enabled by first receiver through the battery switch at step 534)**

In reference to claim 6, claim 1 is taught as above. Siwiak teaches that the call signal is a frequency modulated FM signal **(FM demodulator 108)**.

In reference to claim 7, claim 1 is taught as above. Siwiak teaches that the messaging receiver is an intermediate frequency receiver **(Fig 3 details the linear demodulator which has a mixer 352, local oscillator 354, and IF amplifier 356**

which indicate the removing of a baseband signal from an intermediate frequency signal).

In reference to claim 8, claim 1 is taught as above. Siwiak teaches that the messaging receiver is activated by said enable signal receives a protocol arranged for messaging purposes **(Messaging receiver, or linear demodulator, is activated by enable signal provided by the battery saver switch 104 and demodulates message information Col 13, lines 46-62)**

In reference to claim 10, claim 7 is taught as above. Siwiak teaches that the power consumption of the said messaging receiver exceeds a power consumption of the said first receiver. **(Linear demodulator has a higher current draw than FM demodulator, Col 1, lines 54-68)**

In reference to claim 11, claim 1 is taught as above. Siwiak teaches that the battery based power supply **(Siwiak discloses a type of paging system known to use batteries to operate the pagers, Col 1, lines 15-25, in addition Siwiak includes a battery saver switch 104)** to power said first receiver and messaging receiver **(Switch 114 powers first receiver 108 and messaging receiver 112)**, wherein the expected battery life is about the shelf life for a battery included in the battery based power supply **(Siwiak extends battery life as long as possible through power conservation circuit 114 used to switch power to different elements of the circuit).**

In reference to claim 13, Siwiak teaches of a selective call communications unit of extending battery life, including the steps of:

- First, receiving a call signal using a first receiver to provide an enable signal in a first low power consumption mode (**Claim 1 details first receiver which provides enable signal in a first power consumption mode**)
- Second, receiving responsive to said enable signal and in a second power consumption mode (**step 528 shows first receiver being powered down, and subsequent step 534 shows messaging receiver being powered up**) using a messaging receiver, a message intended for the selective call communications unit (**step 538 shows storage of data and thus receipt of a message**).

In reference to claim 18, claim 13 is taught as above. Claim 18 is taught similar to claim 6 above.

In reference to claim 19, claim 13 is taught as above. Claim 19 is taught similar to claim 7 above.

In reference to claim 20, claim 13 is taught as above. Claim 20 is taught similar to claim 8 above.

In reference to claim 22, claim 19 is taught as above. Claim 22 is taught similar to claim 10 above.

In reference to claim 23, claim 13 is taught as above. Claim 23 is taught similar to claim 11 above.

Thus, Siwiak anticipates claims 1, 6-8, 10, 11, 13, 18-20, 22, and 23.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2-5, 9, 12, 14-17, 21, 24, and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siwiak in view of applicant's admitted prior art.

In reference to claim 2, claim 1 is taught as above. Siwiak teaches that the first receiver is a Frequency Modulated FM receiver.

Siwiak does not teach that the receiver is a super regenerative receiver, regenerative receiver, tuned radio frequency receiver, ultrasonic receiver, or passive receiver.

Applicant discloses in background section, page 2 lines 6-9, of the application that regenerative and passive receivers are well known in the art for having very low power consumption.

It would have been obvious by one skilled in the art at the time of invention to combine the teachings of Siwiak with the suggestions of prior art to exchange the FM receiver in Siwiak for a different type of receiver based upon the needs of the receiver. In addition, admitted prior art suggests that regenerative and passive receivers provide a very low power alternative to other types of receivers.

In reference to claim 3, claim 2 is taught as above. Siwiak teaches that the first receiver operates according to a duty cycle including a down time period and an up time period **(See Fig 5a for flow chart detailing duty cycle, exemplified by sequence of steps 504,506, 508, 510, 512)**

Siwiak does not explicitly teach that the duty cycle is less than 50% **(thereby being off more than it is on)**

Admitted prior art discloses receivers that use a duty cycle comprising a periodic scheduled short on or wake cycle followed by a long off or sleep cycle, page 2, lines 1-3.

It would have been obvious to one skilled in the art at the time of invention to place the receiver in a duty cycle that would accommodate for the necessary minimum response time required to establish an effective communication between the transmitter and receiver pair so that good communication would not be affected because if such application for Siwiak's receiver did not require an immediate response it would be feasible to have a very low duty cycle and within the realm of design choice.

In reference to claim 4, claim 2 is taught as above. Siwiak teaches that the first receiver receives said call signal and remains powered up to detect a selective call

address. **(See Fig 5a for chart detailing detection of selective call address according to step 516)**

In reference to claim 5, claim 4 is taught as above. Siwiak teaches that the first receiver compares said selective call address to an address for the selective call communications unit and when said address matches provides said enable signal and when said address does not match resumes operation according to said duty cycle **(See Fig 5a for chart detailing comparison of selective call address to provide enable signal or resume duty cycle. Enable signal exemplified by blocks 516, 518, and A. Resuming duty cycle exemplified by sequence of blocks 516, 518, 520, 522 or 524)**

In reference to claim 9, claim 8 is taught as above. Siwiak does not teach that the messaging protocol uses a direct sequence spread spectrum phase shift keyed modulation (DSSS PSK).

Applicant's admitted prior art teaches that the 802.15.3 and 802.15.4 standards from the IEEE use a physical layer that operates on DSSS PSK modulation (Page 8, lines 10-15).

It would have been obvious to one skilled in the art at the time of invention to combine the teachings of Siwiak with the suggestions of admitted prior art because Siwiak teaches of using a high-speed receiver for transmission of data to selective call units and DSSS PSK is an open standard for transmitting at high speeds. In addition, using DSSS PSK as a physical layer modulation ensures inter-operability with other DSSS PSK modulated devices.

In reference to claim 12, claim 7 is taught as above. Siwiak teaches that the messaging receiver activated by the enable signal receives a selective call signal **(Signal broadcast to the messaging receiver is received by all the units).**

Siwiak does not teach that the messaging receiver detects a selective call address **(Messaging receiver is set to the right channel, step 530, and powered up at the right time, step 534, to receive message destined for the unit, timing is based upon data pointer decoded by the first receiver in step 526).**

Siwiak does teach that selective call addressing is a way to initiate information transfer in a selective call network on a common channel **(Abstract, Col 4, lines 65-69, Col 5, lines 13 describe FM demodulation in a selective call network).**

It would have been obvious to one skilled in the art at the time of invention to use common channel selective call addressing in the messaging receiver instead of data pointer detection as both perform the same function of indicating when valid data for that unit is placed on the channel, and selective call addressing is well known method for indication of valid data. In addition, Siwiak's invention receives the data pointer on the low power receiver thus saving the unit additional battery power from not having to power up the high-power receiver to obtain the same information on a different channel.

In reference to claim 14, claim 13 is taught as above. Claim 14 is taught similar to claim 2 above.

In reference to claim 15, claim 13 is taught as above. Claim 15 is taught similar to claim 3 above.

In reference to claim 16, claim 14 is taught as above. Claim 16 is taught similar to claim 4 above.

In reference to claim 17, claim 16 is taught as above. Claim 17 is taught similar to claim 5 above.

In reference to claim 21, claim 20 is taught as above. Claim 21 is taught similar to claim 9 above.

In reference to claim 24, claim 19 is taught as above. Claim 24 is taught similar to claim 12 above.

In reference to claim 27, claim 1 is taught as above. Applicant's admitted prior art teaches of regenerative receivers as in claim 2 above. Siwiak teaches that the receiver remains active to receive a selective call address as in claim 4 above.

It would have been obvious by one skilled in the art at the time of invention to combine the teachings of Siwiak with the suggestions of prior art to exchange the FM receiver in Siwiak for a different type of receiver based upon the needs of the receiver such as a regenerative receiver using Amplitude Modulation (AM). In addition, applicant's admitted prior art suggests that regenerative and passive receivers provide a very low power alternative to other types of receivers.

In reference to claim 28, claim 27 is taught as above. Siwiak teaches that the selective call unit contains a comparator for comparing selective call address with an address for the selective call communications unit and when said address matches provide said enable signal **(Receiver unit contains data processing block 114 for processing signal from first receiver. Comparison, thus comparator implied, is**

done in step 516. Step 518 determines if enable signal should be raised for messaging receiver).

In reference to claim 29, claim 1 is taught as above. Claim 29 is taught similar to claim 12 above.

In reference to claim 30, claim 29 is taught as above. According to claim 12 it would have been obvious to use a selective call-addressing scheme in the messaging receiver. Additionally, a need would have arisen to provide call address comparison in the messaging receiver as is taught in claim 28 for the first receiver. Siwiak teaches that the messaging receiver remains active to receive the message (**Fig 5b, steps 534 through 546**).

Thus Siwiak and applicant's admitted prior art teach all the limitations of claims 2-5, 9, 12, 14-17, 21, 24, and 27-30.

Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siwiak in view of Morelli.

In reference to claim 25, Siwiak teaches of a first receiver and messaging receiver as in claim 1 above.

Siwiak does not teach of a transmitter activated by an enable signal for responding to the message because Siwiak's primary disclosure is of a dual-mode receiver.

Morelli teaches of a transmitter and receiver pair operating as a transceiver such that the transmitter enters sleep mode when the receiver is operating, and powered up after receiving an enable signal when the transmitter is needed to transmit **(Abstract)**.

It would have been obvious to one skilled in the art at the time of invention to combine the teachings of Siwiak with the suggestions of Morelli because Siwiak teaches of a dual-mode receiver for extending the battery-life and capabilities of a device and Morelli teaches of a transceiver with the need for a receiver. In addition, Morelli notes that a goal of his device is to provide additional power savings over similar devices by keeping the transmitter un-powered when the transmitting capabilities of the transceiver are unneeded **(Abstract)**.

In reference to claim 26, Siwiak teaches claim 1 as above. Transmitter usage in a selective call unit taught as in claim 25 above. Extended battery life of claim 26 is taught similar to claim 11 above. In addition, Morelli teaches that the battery **26** is used to power the transmitter **12** wherein the transmitter is powered off until needed for more efficient power usage than when the transmitter is in a fully powered mode **(Abstract)**.

Thus Siwiak and Morelli teach all the limitations of claims 25 and 26.

The examiner has included additional references from Davis (US 4,995,099) because Davis includes additional material on activating or deactivating receiver detection means based upon received message addressing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas L Linnenkamp whose telephone number is (703) 305-8701. The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on (703) 305-4704. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nicholas L Linnenkamp
Examiner
Art Unit 2635

NLL

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